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L2: Entry 1 of 1

File: USPT

Mar 31, 1998

DOCUMENT-IDENTIFIER: US 5734915 A

TITLE: Method and apparatus for composing digital medical imagery

Detailed Description Text (5):

In a preferred embodiment, the PDS workstation is located in a critical care area and a medical image film formatter is located in a radiological department for printing images on film. The workstation and formatter are linked via an electronic network to provide image capture and retrieval, image enhancement, soft copy display, and film printing. Images can be previewed and adjusted at the workstation before printing. The workstation displays the image as it will look when printed. Thus, in a preferred embodiment, the workstation display is a "what you see is what you get" ("WYSIWYG") display. Workstation operators can view imagery, compose, and start printing before leaving a critical care area instead of waiting until return to the radiology department to process the film. Workstation operations, editing, viewing and composing and printing focus on the presentation and annotation of medical imagery. The operator is unaware of the underlying apparatus and method which comprises the preferred embodiment of the present invention.

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L3: Entry 1 of 2

File: USPT

Jul 13, 1999

DOCUMENT-IDENTIFIER: US 5924074 A

TITLE: Electronic medical records system

Brief Summary Text (9):

The electronic medical record (EMR) system of the present invention automates and simplifies existing methods of patient chart creation, maintenance and retrieval. In contrast to other systems, the present invention creates and maintains all patient data electronically and thus can eliminate or supplement creating and maintaining of physical data records. The EMR system finishes healthcare providers with an intuitive, easy-to-use, icon-based interface that enables them to capture and analyze patient data quickly and efficiently. Using the present invention, healthcare providers enter patient data immediately at the point of care. Thus, the EMR system captures each piece of data at its source at the time of entry to provide a complete audit trail for all patient data. In this manner, the EMR system transforms a patient chart from a static record of a few clinical interactions into a dynamic, real-time comprehensive record linked to an enterprise-wide clinical database. In addition, the EMR system of the present invention includes the capability to manage a wide variety of patient data formats, including patient data from external sources, such as laboratories and pharmacies. The EMR system can also incorporate a patient's legacy data, such as a paper chart, into the patient record as well as legacy data from mainframe computers.

Detailed Description Text (9):

Referring now to FIG. 5, in a preferred embodiment, the point of care system 100 (FIG. 1) includes a graphical user interface having a patient chart window 150 to capture patient information. The point of care system 100 presents a patient record graphically using a tabbed layout to organize patient data. The patient chart window 150 includes tabs for patient data 151, clinical data 152, encounter data 153 and progress notes 154. Pointing and clicking on a tab on the patient chart window 150 opens a folder window 155 where a healthcare provider can enter and review patient data within the folder. For example, to activate progress notes 144 (FIG. 4), the healthcare provider selects the progress notes tab 154 to display a list of progress note data in the folder window 155. In a similar manner, to activate the patient data capture 140, the clinical data capture 142 or the encounter data capture 146, one selects the patient data tab 151, the clinical data tab 142, or the encounter data tab 153, respectively.

Detailed Description Text (10):

To enter patient data, the healthcare provider clicks on the scroll down button 156 to select a form from a list of available forms to enter patient data. This activates the new forms box 157. The provider then points and clicks on the new form button 158. For example, FIG. 6 shows a new form window 161 displaying the pediatric problem form 162 selected by the healthcare provider using the scroll down button 156 (FIG. 5). The healthcare provider fills out the pediatric problem form 162 using an input device, such as a keyboard, a mouse or an electronic pen. For example, the provider uses a keyboard to enter text "6/7/96 Stomach Ache" 164 and an electronic pen to enter initials 166 for identification. When done with patient data entry, the provider exits the form using the File Menu 168 and the point of care system 100 returns the provider to the patient chart window 150 (FIG. 5). Referring back to FIG. 5, the new form appears as the top entry of the list in

the folder window 155.

Detailed Description Text (11):

Similarly, to annotate patient data, the healthcare provider first selects an item to annotate by pointing and clicking on the item in a list displayed in the folder window 155. The provider then clicks on the annotate button 159 to open the item in an annotate window 170, as shown in FIG. 7. For example, the annotate window 170 of FIG. 7 displays a blood test result 172. As before, the healthcare provider annotates the blood test result document 172 using an input device, such as a keyboard, a mouse or an electronic pen. For example, the provider uses a keyboard to enter text "Out of Range" 174 and an electronic pen to circle 176 the out of range result. When done with annotations, the provider exits the form using the File Menu 178 and the point of care system 100 returns the provider to the patient chart window 150 (FIG. 5). Note that the point of care system 100 tracks the review of patient data and identifies reviewed files with a mark 160 in the folder window 155. By annotating patient data, a healthcare provider, such as a physician, can acknowledge reviewing patient data, provide instructions, such as directions for additional tests and procedures or prescriptions for medication to administer to the patient, and approve recommendations for treatment by other healthcare providers. Lastly, as shown in FIG. 8, a healthcare provider uses the patient chart window 180 to view patient data. First, the healthcare provider selects a view item 182 by either pointing and clicking twice on the item in a list displayed in the folder window 184 or by pointing at the item in the list and pressing the view button 183. The double click opens a viewer window 185 to display the view item 182. For example, the viewer window 185 of FIG. 8 displays an x-ray 186. As before, the healthcare provider may annotate the x-ray 186 with comments and observations by clicking on the annotate button 187. The healthcare provider may likewise close the viewer window 185 by clicking on the close button 189.

Detailed Description Text (15):

With reference to FIG. 13, upon creation of a patient record, the patient locator 200 creates a patient data structure 210 having the PID and the patient's name. In a preferred embodiment, the patient data structure 210 includes pointers to data structures having data within a patient record captured by the point of care system 100 and incorporated from external sources (e.g., a digital x-ray image file stored in a raster pixel format). Thus, the patient data structure 210 maintains a pointer to an interface files structure 211 having patient data transmitted from external sources. The patient data structure 210 likewise maintains pointers to a clinical data structure 212, a progress note structure 213 and an encounter data structure 214. These data structures include patient data captured by the clinical data capture 142, progress notes 144 and encounter data capture 146, respectively (FIG. 4). In another preferred embodiment, the patient data structure 210 may include pointers to data structures having data generated by the reference database 104 and transferred by the legacy data system 106. Thus, the patient data structure 210 may maintain pointers to a medication data structure 215 and a guideline data structure 216. As described above, the medication 215 and guideline 216 data structures include patient data captured by the medication data capture 148 and the practice guideline 149, respectively. In this embodiment, a reference data structure 217 may maintain pointers to the encounter data structure 214 and to the medication data structure 215 for access to reference information contained in a reference database 104. Lastly, the patient data structure 210 may maintain a pointer to a legacy files structure 219 having patient data transmitted from the legacy data system 106, such as an image of a patient chart.

Detailed Description Text (27):

Otherwise, if a contraindication exists, a warning appears in a warning bar 358 to alert the physician. In view of the warning, the physician can investigate the effects of the medication by clicking on the results button 359. Referring now to FIG. 22, the results button produces a medication interaction window 361. A medication selection box 362 displays the medications selected and under

consideration by the physician. An allergy list box 363 displays the patient's allergens. Folder tabs 364 include labels describing the medication combinations and interactions. The physician clicks on one of these folder tabs 364 to display the contents of the folder in the viewing box 365. The physician can then evaluate the information on the interaction including potential adverse patient reactions. The physician clicks on the done button 366 to return to the medication manager window 350 of FIG. 21. The physician can make any needed revisions to the medications selected in the manner described above. Afterwards, the physician exits the medication manager 302 by clicking on the exit button 360.

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